

different from the fraudulent user (who has “JP” as region and does not pay fees). This rules out that these were inactive accounts being liquidated (the Mt. Gox terms of service stated they had the right to close accounts inactive for longer than 6 months). And as I said, these were not isolated cases. The first incidence seems

Interestingly, [there was a post by MagicalTux on bitcointalk.org](#) about him finding and fixing a bug, at a point in time about five hours after the first incidence of this phenomenon. And as it happens, most of these “hijacker” user hashes appear in the final balances file; all have only some very small JPY balance. So they at least satisfy the first two conditions for triggering the bug explained in that post. There is a possibility that the bug was not fully fixed and that this activity was an exploit of it.

Based on my own personal observations, Willy continued to be active until January 26th: buying up 10-20 BTC every 5-10 minutes, for around 100 BTC per hour. It was not active all the time, but the majority of it. January was when things truly went awry for Mt. Gox; more and more withdrawals were getting stuck, and faced with information that JPY withdrawals (which had been instant until that point) were also getting unreasonably delayed, people began panic-buying their way out of Gox. Combined with Willy still being active, this caused the spread between Gox and other exchanges to get completely out of hand. At the pinnacle of it, on January 26th, Willy suddenly became inactive – and with it, the price retraced back to a more reasonable spread with the other exchanges. Shortly after – on February 3rd to be precise – it seemed as if Willy had begun to run in reverse, although with a slightly altered pattern: it seemed to sell around 100 BTC every two hours. The hourly chart shows this quite well; there was almost no other trading volume for two days straight, so we saw a very straight declining slope on the chart.



It didn't take long for reverse-Willy to increase its pace. More than likely, the entire dump down to double digits was the handy work of this dumping bot. Peter R, another trader, came to the same conclusion independently from me [in his](#)

[excellent analysis that may just be very close to the truth](#). It would be one explanation for why none of the Willy accounts had a final balance despite all of their buying and no trace of BTC withdrawals: they were all dumped back on the market. The volume numbers seem to roughly match up. Where did the fiat go then? Into Mt. Gox's reported fiat assets, possibly. You may remember they all but halted JPY withdrawals in early January, yet somehow cleared ALL pending JPY withdrawals the day they shut down in late February. This proves their original reason for the delays (currency conversion issues) were BS; they simply had no fiat left. Yet somehow they had enough fiat for withdrawals the day they shut down, which was after the dumping already started. But, again, speculation.

There's some additional evidence on the chart that a dump bot may have been at play. At several points in time, starting from Feb. 18th, it seemed that some bot was programmed to sell down to various fixed price levels. The most obvious cases are shown in these images.



From Feb. 18th (top) and from Feb. 19th (bottom): every time someone put a bid at or above USD \$248.15 and \$261.2239, respectively, it would get dumped into at most a few minutes later (see e.g. [this post](#) from someone who noticed the same thing). These seem like random price-points at first, but at that point in time, \$248.15 corresponded to **exactly** JPY 26000,

and \$261.2239 corresponded to **exactly** EUR 195.





But here's the kicker: NONE of the sell dumps were performed in their respective currency pairs; ALL were in USD. It suggests that whoever was selling (1) had some way to convert USD to JPY/EUR in a frictionless way, and/or (2) needed these currencies to be at a fixed price for some reason. After reading [this log](#) about possible insider trading from anarchystar, who is closely involved in the Mt. Gox legal proceedings, (2) may in fact have been the purpose: perhaps Mt. Gox was offering a fixed buy-in price for JPY or EUR-based investors. In either case,

only Mt. Gox executing these sell trades makes sense. Furthermore, in an IRC log where someone was impersonating MagicalTux by hijacking his nick, [Charlie Shrem asks if he needs some liquidity](#). This was at a time withdrawals were already halted. Clearly, Mt. Gox was accepting fiat injections – it seems reasonable to assume this liquidity came in the form of cheap BTC being bought.

Additional factoid: a month or two ago, someone put up a site that aggregated the data from the leaked DB and allowed one to traverse the data easily, with rankings for best and worst traders, etc. One page of it is archived [here](#). It had the (undoubtedly ironically intended) domain name “mark-karpeles.com”. It seems the site was fairly quickly removed, and “mark-karpeles.com” now redirects directly to the official mtgox.com. Barring an unlikely sudden change of heart by the creator from trying to expose fraud at Mt. Gox to supporting it, somebody may have threatened legal action or paid big bucks to get it under their control. In other words, someone was pretty desperate to prevent the data from becoming public.

The Effect on the Bitcoin Price

So how did all of this trading activity affect the price of Bitcoin as a whole? The answer is, unfortunately, enormously. I will be placing some historical charts from bitcoincharts.com along the Markus and Willy trade data where buying was most aggressive, which is basically from 15:14, July 28th, 2013 until the end of November. You can double-check exactly when and how many coins were bought using the logs near the top of this report, and/or match them against historical trading data from Mt. Gox's public API. All of these trades actually occurred.

The huge volume spike on July 28 15:14 is where the big buying starts. 15,000 coins get bought in the span of 30 minutes. According to the trade data, buying continues until the 31st, 15:55. After a four day pause, there's some small buying on August 5th, but it really picks up again on the 12th at 21:32. Buying continues on-and-off, with some large spikes especially on the 19th, 27th and the 30th, where ten of thousands of coins are

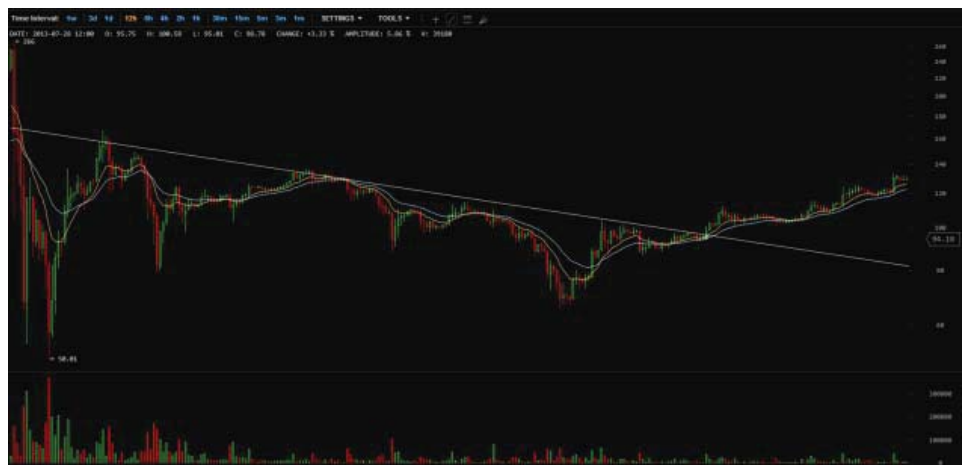


bought. Basically, all the huge green volume spikes in the above chart are the handiwork of Markus, and Markus alone.

Something for the TA people:

Note the date, which is the moment we broke the post-April bubble downtrend.

In September, a few thousand coins were bought on the 2nd and 3rd, and then nothing until a lot was bought on the 9th, then on the 11th through early 13th. In the period of inactivity, the price finally got the chance to correct from an overbought condition. Unsurprisingly, price rose again when Markus resumed buying, then started falling again when Markus stopped on the 13th. There was no activity from Markus until late 26th/early 27th, where Markus made his final buys before handing the baton over to Willy, who would in turn continue aggressive, but much more constant, buying until early October 1st. Again, the price reflected this activity



perfectly.

Then came October, with the Silkroad shutdown crash on the 2nd. Price was flat for a while – because Willy did not become active until 10-10-2013 0:49. Now, unlike Markus, Willy's buying was a lot more spread out over time. Markus was active sporadically, buying thousands or tens of thousands of coins in bursts, whereas Willy was active almost constantly, (at first) buying anywhere from 1 to 50 BTC at ~5-10 minute intervals. But even Willy would sometimes have gaps of inactivity (usually a day or less). These show up nicely in the chart. Willy was not active for most of the 15th and not active for about 14 hours on the 22nd. Price goes flat in these intervals. On 24-10-2013 14:24, Willy becomes inactive for exactly a week, until 31-10-2013 14:44. As though perfectly timed, price crashes and growth stagnates.

Finally, November. Willy continues buying at its ~1-50 BTC per ~5-10 minutes rate until 5-11-2013 7:48. From



5-11-2013 10:53, Willy ups the ante – ~10-100 BTC is now bought at ~5-10 minute intervals, with many bursts of hundreds or thousands of BTC being bought at once. This continues non-stop until 9-11-2013 16:51. Willy becomes inactive for two days. Price crashes as if on cue. From 11-11-2013 14:04, Willy is back at its original pace, with occasional 100-1000+ BTC buys, until 16-11-2013 13:31.

Short Willy inactivity until 17-11-2013 2:57, with inevitable growth stagnation. Then relatively stable buying until 23-11-2013 8:35. A day of inactivity, cue price decline. Re-activation on 24-11-2013 9:16. Cue price growth. The 100-1000+ BTC buy bursts finally end on 28-11-2013 15:10, where Willy enters its final stage that we all recognized (~10-20 BTC every ~5-10 minutes). The reduced activity causes growth stagnation. And we all know what happened next.

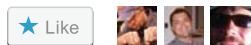
In closing

I want to make clear that this report is not intended to make accusations, but rather to show the facts that can be extracted from the information that is available to the public, and stipulate that there is more than plenty of evidence to suspect that what happened at Mt. Gox may have been an inside job. What I hope to achieve by releasing this analysis into the wild is for the public to learn the truth behind what happened at Mt. Gox, how it affected the Bitcoin price, and hopefully for the individuals responsible for the massive fraud that occurred at Mt. Gox to be put to justice. Although the evidence shown in this report is far from conclusive, it can hopefully spur a more rigorous investigation into Mt. Gox's accounting data, both by the public (using the leaked data) and the authorities (forensic investigation on the actual data).

It needs to be recognized that, whether intentional or not (though plausible ignorance only goes so far), Mt.

Gox has effectively been abusing Bitcoin to operate a Ponzi scheme for at least a year. The November “bubble” well into the \$1000’s – and possibly April’s as well – was driven by hundreds of millions of dollars of fake liquidity pumped into the market out of thin air (note that this is equivalent to “with depositors’ money”). It is only natural that the Bitcoin price would deflate for around 5 months since its December peak, since there was never enough fiat coming in to support these kind of prices in the first place.

In the interest of full disclosure: I’ve known of everything I wrote in this report since basically a day after the database was leaked, well over 2 months ago. I’m sure there are at least some other people that knew about it – I mean, it’s there in plain sight, in publicly available data, so it surprises me that no one else has come out with it until now. I specifically waited for the Goxless, *free* market to finally break the ongoing downtrend on its own strength before releasing it. Barring similar shenanigans at other exchanges (looking at you China) I think this means we may be at a “fair” valuation now, and that this knowledge will not hurt the price all that much. That said, despite everyone’s expectations, it seems unlikely that there will be another huge “bubble”, seeing as they were never “real” in the first place. Hopefully, price can rise at a more controlled pace as more and more good news comes out; it will be much better for Bitcoin as a technology than the crazy volatility and outrageous valuations we’ve seen last year.

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